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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,989	01/28/2004	Noboru Shimoyama	1232-5267	5015
27123 7590 06/04/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER UHLLENHAKE, JASON S	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 06/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/766,989	Applicant(s) SHIMOYAMA, NOBORU	
	Examiner Jason Uhlenhake	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al (U.S. Pat. 6,637,853) in view of Nakayasu et al (U.S. Pat. 6,714,748)

Ahne discloses:

- ***regarding claims 1, 5***, an ink jet apparatus and method comprising a carriage scanning means for moving and scanning a carriage which a print head that ejects ink is mounted (Column 3, Lines 32-51)
- ***regarding claim 3***, wherein said preliminary ejection (test pattern) operation includes a step of allowing said carriage scanning means to move said carriage to a position where said print head can carry out preliminary ejection, a step of allowing said print head to carry out preliminary ejection (test pattern), and a step of allowing said carriage scanning means to move said carriage to a position where said print head can execute printing on said print medium (Figure 3; Column 3, Lines 5-23; Column 4, Lines 7-54)

Ahne does not disclose expressly the following:

- ***regarding claims 1, 5***, print medium feeding means for feeding one of a plurality of stacked print media, and print medium conveying means for conveying the

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print medium fed by the print medium feeding means to a position where printing can be carried out

- control means for, before printing to the print medium which has not been printed yet, causing the print medium feeding means and the print medium conveying means to perform a print medium feeding and conveying operation in which the print medium is conveyed continuously while shifting the print medium from the print medium feeding means to the print medium conveying means causing in parallel, performance of a preliminary ejecting operation (test pattern) during a part of the period of the performance of the print medium feeding and conveying operation

- wherein there is an overlapping period in which the print medium feeding means and the print medium conveying means are driven simultaneously, and the control means controls such that the preliminary ejecting operation is not performed in the overlapping period

- **regarding claim 2**, the preliminary ejecting operation is performed concurrently with the operation performed by the print medium conveying means to convey the print medium the position where printing can be carried out using the print head, the conveying operation being included in the print medium feeding and conveying operation

- **regarding claim 6**, the control means controls such that the preliminary ejecting operation is started after the driving of the print medium feeding means has completed

Nakayasu discloses:

- **regarding claims 1, 5,** print medium feeding means for feeding one of a plurality of stacked print media, and print medium conveying means for conveying the print medium fed by the print medium feeding means to a position where printing can be carried out (Figure 2; Column 12, Lines 14-25; Lines 45-56; Column 46, Lines 22-27)
- control means for, before printing to the print medium which has not been printed yet, causing the print medium feeding means and the print medium conveying means to perform a print medium feeding and conveying operation in which the print medium is conveyed continuously while shifting the print medium from the print medium feeding means to the print medium conveying means causing in parallel, performance of a preliminary ejecting operation (test pattern) during a part of the period of the performance of the print medium feeding and conveying operation (Figure 14; Abstract; Column 16, Lines 27-50; Column 44, Lines 21-48; Column 46, Lines 22-27)
- wherein there is an overlapping period in which the print medium feeding means and the print medium conveying means are driven simultaneously, and the control means controls such that the preliminary ejecting operation is not performed in the overlapping period (Figure 2; Column 12, Lines 14-25; Lines 45-56)
- **regarding claim 2,** the preliminary ejecting (test pattern) operation is performed concurrently with the operation performed by the print medium conveying means to convey the print medium the position where printing can be carried out using the print head, the conveying operation being included in the print medium feeding and conveying operation (Figure 14; Abstract; Column 16, Lines 27-50; Column 44, Lines 21-48)

- **regarding claim 6**, the control means controls such that the preliminary ejecting (test pattern) operation is started after the driving of the print medium feeding means has completed (Figure 2; Column 12, Lines 14-25; Lines 45-56)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Nakayasu into the device of Ahne, for the purpose of calculating a skew angle with respect to the recording paper conveyance direction using the positional error extents of the test pattern image

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al (U.S. Pat. 6,637,853) as modified by Nakayasu et al (U.S. Pat. 6,714,748) as applied to claim 1 above, and further in view of Horikoshi (U.S. Pat. 6,659,580).

Ahne as modified by Nakayashu discloses all the claimed limitations above except for the following:

- **regarding claim 4**, the ink jet printing apparatus has a first driving source that electrically drives the carriage scanning means; a second driving source that electrically drives the print medium feeding means; and a third driving source that electrically drives the print medium conveying means, and not all of the three driving sources are simultaneously driven

Horikoshi discloses:

- **regarding claim 4**, the ink jet printing apparatus has a first driving source that electrically drives the carriage scanning means; a second driving source that electrically drives the print medium feeding means; and a third driving source that

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electrically drives the print medium conveying means, and not all of the three driving sources are simultaneously driven (Column 7, Lines 5-16), for the purpose of suppressing an increase in total printing time caused by recovery processing during printing and forming a high quality image

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Horikoshi into the device of Ahne as modified by Nakayasu, for the purpose of suppressing an increase in total printing time caused by recovery processing during printing and forming a high quality image

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita (U.S. Pat. 2002/0054185) in view of Tsuboi et al (U.S. Pat. 7,029,095)

Kinoshita discloses:

- ***regarding claim 7***, a carriage scanning means for moving and scanning a carriage which a print head that ejects ink is mounted (Paragraphs 0011, 0022), print medium feeding means (102) for feeding one of a plurality of stacked print media (Paragraph 0005), and print medium conveying means (1709) for conveying the print medium (Paragraph 0058) fed by the print medium feeding means to a position where printing can be carried out using the print head
- control means for controlling a preliminary ejecting operation to be performed after a print medium feeding operation by the feeding means has completed, for controlling a print medium conveying operation by the conveying means to be

started at the timing at which the print medium is fed to a predetermined position before the print medium feeding operation has completed (Paragraphs 0028, 0066-0067)

- wherein between the timing at which the print medium is fed to the predetermined position and a timing at which the print medium feeding operation is completed, the print medium feeding operation and the print medium conveying operation are performed in parallel with each other, and after the print medium feeding operation is completed, the print medium conveying operation and the preliminary ejecting operation are performed in parallel with each other (Paragraphs 0028, 0066-0067)

Kinoshita does not disclose expressly the following:

- ***regarding claim 7***, controlling a printing operation using the print head to be started after the print medium conveying operation and the preliminary ejecting operation have completed

Tsuboi et al discloses:

- ***regarding claim 7***, controlling a printing operation using the print head to be started after the print medium conveying operation and the preliminary ejecting operation have completed (Column 12, Lines 41-55), for the purpose of removing film and/or ink with an increased viscosity from the nozzles

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Tsuboi et al into the device of Kinoshita, for the purpose of removing film and/or ink with an increased viscosity from the nozzles

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection regarding Ahne et al (U.S. Pat. 6,637,853) in view of Nakayasu et al (U.S. Pat. 6,714,748). Nakayasu discloses a control means for, before printing to the print medium which has not been printed yet, performing a preliminary ejection (test pattern) in parallel with a print medium conveying operation.

Regarding claim 7, applicant argues that Kinoshita does not disclose controlling a preliminary ejection operation to be preformed after a print medium feeding operation by said feeding means has completed. However, once one line is fed by the feeding means (102) to the conveyance means (1709), this can be considered a completion of the feeding means operation. No parameters are set for the feeding means completion; therefore Kinoshita does complete the feeding means before the preliminary ejection, which occurs during printing.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

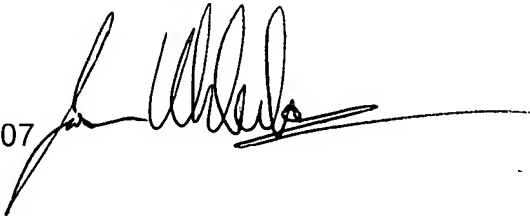
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSU
May 24, 2007

A handwritten signature in black ink, appearing to be 'JSU', with a long horizontal line extending to the right.A handwritten signature in black ink, appearing to be 'STEPHEN MEIER', with a long horizontal line extending to the right.

STEPHEN MEIER
SUPERVISORY PATENT EXAMINER